

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-21. Canceled

22. (Currently amended) An albumin fusion protein comprising two or more tandemly oriented GLP-1 polypeptides, wherein said GLP-1 polypeptides are selected from wild-type GLP-1, GLP-1 fragments, and GLP-1 variants, fused to albumin comprising the amino acid sequence of SEQ ID NO:1038, an albumin fragment, or albumin variant thereof, wherein said albumin fragment or albumin variant increases the serum plasma half-life of the ~~unfused~~ GLP-1 polypeptides, and wherein said fusion protein has GLP-1 activity.

23. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP-1 polypeptides are selected from wild type GLP-1 sequences.

24. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP-1 polypeptides are selected from GLP-1 fragment sequences.

25. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP-1 polypeptides are selected from GLP-1 variant sequences.

26. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP-1 polypeptides are selected from at least one wild type GLP-1 sequence fused to at least one GLP-1 fragment sequence.

27. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP-1 polypeptides are selected from at least one wild type GLP-1 sequence fused to at least one GLP-1 variant sequence.

28. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP-1 polypeptides are selected from at least one GLP-1 fragment sequence fused to at least one GLP-1 variant sequence.

29. (Previously presented) The albumin fusion protein of claim 22, wherein said GLP-1 fragments or GLP-1 variants are selected from:

- a. GLP-1(9-36);
- b. GLP-1(7-36);
- c. GLP-1(7-36(A8G)); and
- d. GLP-1(7-36(A8S)).

30. (Previously presented) The albumin fusion protein of claim 29, wherein said GLP-1 fragments or GLP-1 variants are selected from two tandemly oriented GLP-1(7-36(A8G)).

31. (Previously presented) The albumin fusion protein of claim 30, wherein said two tandemly oriented GLP-1(7-36(A8G)) are fused at the N-terminus to albumin.

32. (Previously presented) The albumin fusion protein of claim 30, wherein said two tandemly oriented GLP-1(7-36(A8G)) are fused at the C-terminus to albumin.

33. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP -1 polypeptides are fused at the N-terminus to albumin.

34. (Previously presented) The albumin fusion protein of claim 22, wherein said tandemly oriented GLP -1 polypeptides are fused at the C-terminus to albumin.

35. (Previously presented) The albumin fusion protein of claim 22,
produced from a host cell comprising a construct which expresses said albumin fusion
protein, wherein said construct is selected from:

- a. 2900;
- b. 2964;
- c. 2803;
- d. 2804;
- e. 2945;
- f. 2982;
- g. 3070;
- h. 3027;
- i. 3028;
- j. 3045;
- k. 3046;
- l. 3069;
- m. 3071;
- n. 3072;
- o. 3085;
- p. 3086;
- q. 3087;
- r. 3309; and
- s. 2904.

36. (Previously presented) The albumin fusion protein of claim 22, which is non-glycosylated.

37. (Previously presented) The albumin fusion protein of claim 22, which is expressed in yeast.

38. (Previously presented) The albumin fusion protein of claim 37, wherein said yeast is a *S. cerevisiae*.

39. (Previously presented) The albumin fusion protein of claim 37, wherein said yeast is glycosylation deficient.

40. (Previously presented) The albumin fusion protein of claim 37, wherein said yeast is glycosylation and protease deficient.

41. (Previously presented) The albumin fusion protein of claim 22, which is expressed by a mammalian cell.

42. (Previously presented) The albumin fusion protein of claim 41, wherein said mammalian cell is a CHO cell.

43. (Previously presented) The albumin fusion protein of claim 22, wherein the albumin fusion protein further comprises a secretion leader sequence.

44. (Previously presented) A composition comprising the albumin fusion protein of claim 22 and a pharmaceutically acceptable carrier.

45. (Currently amended) A method of treating a patient with diabetes, comprising administering an effective amount of the albumin fusion protein of claim 22.
~~any one of claims 22-43 or the composition of claim 44.~~

46. (New) An albumin fusion protein comprising two or more tandemly oriented GLP-1 polypeptides fused to albumin comprising the amino acid sequence of

SEQ ID NO:1038, wherein said GLP-1 polypeptides comprise at least one amino acid sequence selected from:

- (a) amino acids 1 to 30 of SEQ ID NO:1808;
- (b) amino acids 100 to 127 of SEQ ID NO:1249; and
- (c) amino acids 98 to 127 of SEQ ID NO:1250;

wherein said fusion protein has GLP-1 activity.

47. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides comprise at least one amino acid sequence of (a).

48. (New) The albumin fusion protein of claim 47, wherein said GLP-1 polypeptides comprise at least two amino acid sequences of (a).

49. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides comprise at least one amino acid sequence of (b).

50. (New) The albumin fusion protein of claim 49, wherein said GLP-1 polypeptides comprise at least two amino acid sequences of (b).

51. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides comprise at least one amino acid sequence of (c).

52. (New) The albumin fusion protein of claim 51, wherein said GLP-1 polypeptides comprise at least two amino acid sequences of (c).

53. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides comprise at least one amino acid sequence of (a) and at least one amino sequence of (b).

54. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides comprise at least one amino acid sequence of (b) and at least one amino acid sequence of (c).

55. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides comprise at least one amino acid sequence of (a) and at least one amino acid sequence of (c).

56. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides are fused at the N-terminus to albumin.

57. (New) The albumin fusion protein of claim 46, wherein said GLP-1 polypeptides are fused at the C-terminus to albumin.

58. (New) The albumin fusion protein of claim 46, which is non-glycosylated.

59. (New) The albumin fusion protein of claim 46, which is expressed in yeast.

60. (New) The albumin fusion protein of claim 59, wherein said yeast is *S. cerevisiae*.

61. (New) The albumin fusion protein of claim 59, wherein said yeast is glycosylation deficient.

62. (New) The albumin fusion protein of claim 59, wherein said yeast is glycosylation and protease deficient.

63. (New) The albumin fusion protein of claim 46, wherein the albumin fusion protein further comprises a secretion leader sequence.

64. (New) A composition comprising the albumin fusion protein of claim 46 and a pharmaceutically acceptable carrier.

65. (New) A method of treating a patient with diabetes, comprising administering an effective amount of the albumin fusion protein of claim 46.

66. (New) An albumin fusion protein comprising two or more tandemly oriented GLP-1 polypeptides fused to human serum albumin, wherein said albumin fusion protein comprises an amino acid sequence selected from:

- (a) amino acids 25 to 669 of SEQ ID NO:1231;
- (b) amino acids 25 to 669 of SEQ ID NO:1232;
- (c) amino acids 25 to 669 of SEQ ID NO:1233;
- (d) amino acids 25 to 667 of SEQ ID NO:1234;
- (e) amino acids 25 to 669 of SEQ ID NO:1235;
- (f) amino acids 25 to 669 of SEQ ID NO:1236;
- (g) amino acids 25 to 667 of SEQ ID NO:1237;
- (h) amino acids 30 to 674 of SEQ ID NO:1280;
- (i) amino acids 20 to 664 of SEQ ID NO:1607;
- (j) amino acids 20 to 664 of SEQ ID NO:1608;
- (k) amino acids 19 to 663 of SEQ ID NO:1609;
- (l) amino acids 19 to 663 of SEQ ID NO:1610;
- (m) amino acids 24 to 668 of SEQ ID NO:1621;
- (n) amino acids 86 to 730 of SEQ ID NO:1622;
- (o) amino acids 18 to 662 of SEQ ID NO:1623;
- (p) amino acids 86 to 730 of SEQ ID NO:1624;
- (q) amino acids 24 to 668 of SEQ ID NO:1625;
- (r) amino acids 18 to 662 of SEQ ID NO:1626; and

(s) amino acids 30 to 673 of SEQ ID NO:2170;

and wherein said fusion protein has GLP-1 activity.

67. (New) The albumin fusion protein of claim 66, wherein said albumin fusion protein comprises the amino acid sequence of (h).

68. (New) The albumin fusion protein of claim 66, wherein said albumin fusion protein further comprises a secretion leader sequence.

69. (New) The albumin fusion protein of claim 66, which is glycosylated.

70. (New) The albumin fusion protein of claim 66, which is expressed in yeast.

71. (New) The albumin fusion protein of claim 70, wherein said yeast is *S. cerevisiae*.

72. (New) The albumin fusion protein of claim 70, wherein said yeast is glycosylation deficient.

73. (New) The albumin fusion protein of claim 70, wherein said yeast is glycosylation and protease deficient.

74. (New) A composition comprising the albumin fusion protein of claim 66 and a pharmaceutically acceptable carrier.

75. (New) A method of treating a patient with diabetes, comprising administering an effective amount of the albumin fusion protein of claim 66.

76. (New) An albumin fusion protein comprising two or more tandemly oriented GLP-1 polypeptides fused to albumin, wherein said fusion protein is produced from a host cell comprising the amino acid sequence of the 3070 construct contained in ATCC Deposit No. PTA-4671.

77. (New) A composition comprising the albumin fusion protein of claim 76 and a pharmaceutically acceptable carrier.

78. (New) A method of treating a patient with diabetes, comprising administering an effective amount of the albumin fusion protein of claim 76.